

REMARKS

Claims 22 and 26 through 43 are pending in the present application. Applicant proposes canceling claim 41.

All pending claims stand rejected under 35 U.S.C. § 103(a). Claim 41 stands objected-to due to alleged informalities.

Reconsideration is respectfully requested in view of the above amendments and the following remarks.

Objection to Claim 41

Claim 41 stands objected-to for allegedly having improper dependent form. Applicants propose canceling claim 41 without prejudice.

Prior Art Rejections

Claims 22, 26, 31, 33, 34, and 41-43 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. patent publication 2004/0204199 (hereinafter “Zax”) in view of U.S. patent 5,508,709 (hereinafter “Krenz”) and in further view of U.S. patent 7,162,209 (hereinafter “Ono”). Claims 27-30, 32, and 35-40 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Zax in view of Krenz, and Ono, and further in view of U.S. patent 6,792,246 (hereinafter “Takeda”).

Reconsideration is respectfully requested.

Claim 22 recites:

An apparatus comprising first and second components having respective first and second mechanical coupling elements that cooperate to allow relative movement of the first and second components, the first mechanical coupling element comprising a recess formed therein and the second mechanical coupling element comprising a projection adapted to be movably fitted in the recess,

wherein **the first mechanical coupling element comprises a first conductive plate positioned in the recess and the second mechanical coupling element comprises a second conductive plate positioned on the projection, the first conductive plate having a first continuous surface extending diametrically across the first conductive plate,**

the second conductive plate having a second continuous surface extending diametrically across the second conductive plate, and the first conductive plate positioned in the recess and the second conductive plate positioned on the projection so that the first continuous surface is positioned substantially parallel to the second continuous surface when the projection is fitted in the recess,

further wherein the second conductive plate is configured to wirelessly couple a signal from one of the first and second components to the other of the first and second components.

In order for a set of references to render this claim obvious, the references must disclose each and every element of the recited claim language and suggest combining the elements into the recited combination. Applicants respectfully submit that the cited references do not disclose or suggest the above-emphasized claim language and therefore cannot possibly suggest the recited combination.

The Office cites to *Ono* as allegedly disclosing “the first conductive plate having a first continuous surface extending diametrically across the first conductive plate, the second conductive plate having a second continuous surface extending diametrically across the second conductive plate.” (Office Action at p. 3). Applicants respectfully disagree.

Ono discloses a cellular phone. The phone comprises two casings that are bendably connected to each other and communicate to each other using infrared rays. (Ono at Abstract). In particular, Ono discloses placing two communication infrared modules 5, 7 in close proximity to each other in a cylindrical space formed in the connecting portion 8 of the phone. (Ono at Col. 4, ln. 57 – Col. 5, ln. 20). The two casings are mechanically connected to each other using hinges positioned on either side of the cylindrical space. (See Ono at Fig. 4 and 8).

The Office alleges that elements 5 and 7 disclosed in Ono correspond to the recited “first conductive plate” and “second conductive plate.” But elements 5 and 7 are defined by Ono as “infrared modules” and not “a first conductive plate” and “second conductive plate.” (Ono at col. 5, ll. 3-10). Applicants note that Ono discloses an embodiment in connection with Figure 15 that comprises radio antennas 13 and 15. (Col. 6, ll. 1-16). But the radio antennas 13 and 15 disclosed by Ono are **not** a “**first conductive plate having a first continuous surface extending diametrically across the first conductive plate**” and a

“second conductive plate having a second continuous surface extending diametrically across the second conductive plate.” Rather, as depicted in Figure 15, the radio antennas 13 and 15 appear to be formed as strips on circuit boards 4 and 6 respectively.

Moreover, even assuming for purposes of discussion that Ono discloses a “first conductive plate” and a “second conductive plate,” and it does not, Ono does not disclose or suggest a **“first mechanical coupling element compris[ing] a first conductive plate positioned in the recess and the second mechanical coupling element compris[ing] a second conductive plate positioned on the projection.”** Rather, Ono discloses that infrared elements 5 and 7 are each positioned in a cylindrical space formed in connecting portion. Infrared element 5 or 7 are not “positioned in [a] recess” and “positioned on [a] projection.”

Zax likewise fails to disclose the recited claim language. *Zax* discloses a hand held communications device. The device 10 comprises a first flip portion 14 and a second flip portion 16, both of which are pivotal with respect to a base portion 12 around a hinge 18. (*Zax* at Abstract, ¶ [0022]). Hinge 18 includes a hinge spring 402, a hinge spring knuckle 404, and knuckle 408. Hinge spring 402 includes a protrusion 410 which is received into aperture 414 formed in hinge spring knuckle 404. (*Zax* at ¶ [0038]). Knuckle 408 includes a protruding ring 414 that rotatably engages with a hinge hub 416 located on the second flip portion 16. (*Zax* at ¶ [0038]). Circuitry in the base portion 12 communicates with circuitry in the first flip portion 14 via “a suitable connector 208, flexible connector, optical coupler or any other suitable coupling mechanism.” (*Zax* at ¶ [0023]).

Thus, *Zax* discloses a communication device wherein a protrusion formed in one component of the device is received in an aperture formed in another component of the device. But as acknowledged by the Office, *Zax* does not disclose “the first mechanical coupling element compris[ing] a first conductive plate positioned in the recess and the second mechanical coupling element compris[ing] a second conductive plate positioned on the projection.” (Office Action at p. 2). Rather, *Zax* discloses a hinge spring 402 that is received into an aperture 414 of a knuckle 404. But the knuckle 404 disclosed by *Zax* does not have **“a first conductive plate positioned in the recess.”** Likewise, the hinge spring 402 disclosed by *Zax* does not have **“a second conductive plate positioned on the projection.”** Rather, *Zax* merely mentions that “a suitable connector 208” is used to communicate between halves of the device and discloses no structure for the “connector 208.”

Krenz also does not disclose or suggest the recited claim language. *Krenz* discloses a flip phone with an integrated antenna. A transformer, having a winding in the flip element and a winding in the housing, couples electromagnetic energy across the hinge. (*Krenz* at Abstract). More particularly, *Krenz* discloses a flip element 104 with two hinge knuckles 112 and a housing with two supporting knuckles 116 and 118. (*Krenz* at Col. 2, ll. 32-35). An axis 206 extends through the knuckles 112, 116, and 118 and secures the flip element to the housing. (See *Krenz* at Figs. 2, 3, and 6). A thin metal loop winding 201 is formed in flip element hinge knuckle 112, (*Krenz* at Col. 2, ll. 55-57), while a thin metal loop winding 301 is formed in housing central knuckle 114. (*Krenz* at Col. 2, ll. 63-66). Windings 201 and 301 are encircle axis 206, (*Krenz* at Figs. 2, 3, and 6), and are positioned coaxially and opposite each other so as to provide electrical communication between the flip element and the housing. (*Krenz* at Col. 3, ll. 1-5).

Thus, *Krenz* discloses a flip phone with an axis 206 running through knuckles 112, 116, and 118 and with windings 201 and 301 formed around the axis **and in knuckles 112 and 114**. In contrast with claim 1, *Krenz* does not disclose or suggest “the first mechanical coupling element compris[ing] a first conductive plate **positioned in the recess** and the second mechanical coupling element compris[ing] a second conductive plate **positioned on the projection**.” Rather, *Krenz* discloses windings 201 and 301 formed **in knuckles 112 and 114** and around the axis that connects knuckles 112, 116, and 118. Neither winding 201 nor 301 is “positioned **in the recess**.” Moreover, neither winding 201 nor 301 is “positioned **on the projection**.” Indeed, *Krenz* does not even disclose a “first mechanical coupling element **comprising a recess**” and a “second mechanical coupling element **comprising a projection** adapted to be movably fitted in the recess.” *Krenz* cannot possibly disclose or even suggest a “first conductive plate **positioned in the recess**” and a “second conductive plate **positioned on the projection**.”

Thus, neither *Zax*, *Krenz*, nor *Ono* disclose “[a] first mechanical coupling element compris[ing] a first conductive plate positioned **in the recess**,” and “[a] second mechanical coupling element compris[ing] a second conductive plate positioned **on the projection**.” Moreover, one skilled in the art at the time of Applicants’ invention, upon reviewing *Zax*, *Krenz*, and *Ono* would **not** arrive at the claimed combination. *Zax* discloses a spring hinge 402 projecting into an aperture 414 formed in a knuckle 404, but is silent as to

communications between halves of the disclosed device. Krenz discloses a first donut shaped winding 201 **in** a first knuckle 112 and second donut shaped 301 winding **in** a second knuckle 116 with the windings surrounding an axis that extends into and through the knuckles. One skilled in the art upon considering Zax and Krenz would be motivated to place first and second donut shaped windings as disclosed by Krenz **in** each of the first and second knuckles as disclosed by Zax. But one skilled in the art would **not** be motivated by Zax and Krenz to form a “first mechanical coupling element compris[ing] a first conductive plate positioned **in the recess** and the second mechanical coupling element compris[ing] a second conductive plate positioned **on the projection**.” Ono discloses placing infrared modules 105, 107 in knuckles. One skilled in the art upon considering Zax and Ono would be motivated to place the infrared modules 105 and 107 of Ono in the knuckles 404 and 420 of Zax. But one skilled in the art would **not** be motivated by Zax and Ono to form a “first mechanical coupling element compris[ing] a first conductive plate positioned **in the recess** and the second mechanical coupling element compris[ing] a second conductive plate positioned **on the projection**.” There is simply nothing in the teachings of Zax, Krenz, or Ono to suggest positioning a conductive plate “**in the recess**” **and** “**on the projection**.” To the contrary, each of Krenz, Ono, and Zax disclose embodiments that teach otherwise.

Therefore, because the cited references do not disclose or even suggest the recited claim elements, the references cannot possibly disclose the recited combination. Accordingly, claim 22 and its dependent claims are not rendered obvious. Although their language is different from that of claim 22, claims 42 and 43 patentably define over the cited references for reasons analogous reasons to those discussed above.

Reconsideration and withdrawal of the rejections under 35 U.S.C. § 102 and 103 is respectfully requested.

Conclusion

In view of the foregoing amendments and remarks, applicants submits that the above-identified application is in condition for allowance. Early notification to this effect is respectfully requested. If the Examiner has any questions regarding this response, the Examiner is invited to contact the undersigned attorney at (215) 568-3100.

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